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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/521,874	07/25/2005	Ralf Spitzl	RO0968US (#90568)	1240
7590 D Peter Hochberg 6th Floor 1940 East 6th Street Cleveland, OH 44114				
EXAMINER MAYEKAR, KISHOR				
ART UNIT		PAPER NUMBER		
1795				
MAIL DATE		DELIVERY MODE		
06/03/2009		PAPER		

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

### Office Action Summary

**Application No.**

10/521,874

**Applicant(s)**

SPITZL ET AL.

**Examiner**

Kishor Mayekar

**Art Unit**

1795

**Period for Reply** -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 26 March 2009.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-23 is/are pending in the application.
- 4a) Of the above claim(s) 8-12 and 18-23 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-7 and 13-17 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-8508)
- Paper No(s)/Mail Date 04/05
- 4) ☐ Interview Summary (PTO-413)
- Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

## DETAILED ACTION

### *Election/Restrictions*

1. Applicant's election with traverse of claims of Group I in the reply filed on 26 March 2008 is acknowledged. The traversal is on the ground(s) that "the present invention claims a device for carrying out plasma reactions and a method for carrying out plasma reactions in which the device is used, the present invention fulfills the requirements for unity according to PCT Rule 13.1" and "that the Applicant's position is in agreement with that of the international search history authority since no such objection for lack of unity of the present invention was lodged in the IPER". This is not found persuasive because Group I has a special technical feature directed to a device for carrying out gas reactions with a flow-reduced zone formed in a gas flow not required by for Group II and Group II has a special technical feature directed to a method for carrying out gas reactions with a microwave-excited plasma and flow-reduced plasma zone formed in a gas flow not required for Group I as alleged by the examiner in the lack of unity. Further, the flow-reduced zone and the flow-reduced plasma zone are different special technical features and the device is used in the method claim does not recite the structures of the device as claimed in claim 1. As to the agreement with that of the internal search history authority, the lack of unity can be raised during the prosecution.

The requirement is still deemed proper and is therefore made FINAL.

*Drawings*

2. The drawings are objected to because there two drawings of Fig. 2, one on a separate sheet and the other together with Figs. 3 and 4 on another sheet. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

3. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the recited catalyst must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

#### *Specification*

4. The abstract of the disclosure is objected to because there are 2 abstract in the

application, the abstract in page 20 and the abstract in the published PCT application. Further, with the first abstract, because of the inclusion of Fig. 2. Correction is required. See MPEP § 608.01(b).

5. The specification is objected because the headings introducing various paragraphs of the specification have been omitted.

The following guidelines illustrate the preferred layout for the specification of a utility application. These guidelines are suggested for the applicant's use.

### **Arrangement of the Specification**

As provided in 37 CFR 1.77(b), the specification of a utility application should include the following sections in order. Each of the lettered items should appear in upper case, without underlining or bold type, as a section heading. If no text follows the section heading, the phrase "Not Applicable" should follow the section heading:

- (a) TITLE OF THE INVENTION.
- (b) CROSS-REFERENCE TO RELATED APPLICATIONS.
- (c) STATEMENT REGARDING FEDERALLY SPONSORED RESEARCH OR DEVELOPMENT.
- (d) INCORPORATION-BY-REFERENCE OF MATERIAL SUBMITTED ON A COMPACT DISC (See 37 CFR 1.52(e)(5) and MPEP 608.05. Computer program listings (37 CFR 1.96(c)), "Sequence Listings" (37 CFR 1.821(c)), and tables having more than 50 pages of text are permitted to be submitted on compact discs.) or  
REFERENCE TO A "MICROFICHE APPENDIX" (See MPEP § 608.05(a). "Microfiche Appendices" were accepted by the Office until March 1, 2001.)
- (e) BACKGROUND OF THE INVENTION.
  - (1) Field of the Invention.
  - (2) Description of Related Art including information disclosed under 37 CFR 1.97 and 1.98.
- (f) BRIEF SUMMARY OF THE INVENTION.
- (g) BRIEF DESCRIPTION OF THE SEVERAL VIEWS OF THE DRAWING(S).
- (h) DETAILED DESCRIPTION OF THE INVENTION.

- (i) CLAIM OR CLAIMS (commencing on a separate sheet).
- (j) ABSTRACT OF THE DISCLOSURE (commencing on a separate sheet).
- (k) SEQUENCE LISTING (See MPEP § 2424 and 37 CFR 1.821-1.825. A "Sequence Listing" is required on paper if the application discloses a nucleotide or amino acid sequence as defined in 37 CFR 1.821(a) and if the required "Sequence Listing" is not submitted as an electronic document on compact disc).

6. The disclosure is objected to because of the following informalities: the incorrect reference to character 1 as the gas outlet 1 in second paragraph of page 16.

Appropriate correction is required.

7. The lengthy specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

*Claim Rejections - 35 USC § 112*

8. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

9. Claims 4 and 7 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 4, the recitations "the inlet", "the outlet", "the wall" (twice occurrences), and "the reaction tube" (twice occurrences) lack antecedent basis.

In claim 7, the recitation "the reaction tube" lacks antecedent basis. And the recitation "said catalyst ... on bottoms, in a basket, or as a monolith" is confusing as to its meaning.

*Claim Rejections - 35 USC § 102 and § 103*

10. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

11. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

12. Claims 1 and 2 are rejected under 35 U.S.C. 102(b) as being anticipated by Hirai (US 5,015,442). Hirai's invention is directed to a sterilizing/deodorizing apparatus. Hirai



discloses that the apparatus comprises a plasma reactor (ozonizer means by electric discharge) with a through-flow of gases which has a plasma chamber 22 and an adjustable flow forming element 26 for forming the flow of gases which is arranged before the plasma reactor.

13. Claims 1-7 and 13-17 are rejected under 35 U.S.C. 102(b) as being anticipated by Hartz et al. (US 3,154,682). Hartz's invention is directed to a method and apparatus for removing contaminants from a gas. Hartz discloses that the apparatus comprises a plasma reactor with a through-flow of gases which has a plasma chamber and a throttle valve (an adjustable flow forming element) for forming the flow of gases which is arranged after the plasma reactor.

As to the subject matter of claim 2, the throttle body reads on the recited baffle bodies.

As to the subject matter of claim 3, since Hartz discloses that the contaminant enriched stream can be reprocessed by passing in sequence through a number of similar separation chambers (c. 2, l. 59-65) and that separation chamber is in the form of a metal cylinder (c. 1, l. 59-63), the next sequence separation chamber reads on the recited reaction tube.

As to the subject matter of claim 4, since Hartz discloses the separation of simple gas mixtures consisting of a single electronegative type gas such as O<sub>2</sub> and a single non-

electronegative type gas such as  $H_2$ , in such a separation of these two gases where the gas are inherently cold gases, the gas inlet and outlet read on the recited cooling chamber. And this would apply to the recited subject matter of claims 5 and 6.

As to the subject matter of claim 7, Hartz's a plurality source of ionization 14 read on it.

As to the subject matter of claim 15, the gas inlet reads on the recited tube.

14. Claims 1, 2, 4-6 and 13-16 are rejected under 35 U.S.C. 102(b) as being anticipated by Liou (US 6,007,785). Liou's invention is directed to an apparatus for efficient ozone generation. Liou discloses in Fig. 3 that the apparatus comprises a plasma reactor 20 with a through-flow of gases which has a plasma chamber and a valve 27 (an adjustable flow forming element) for forming the flow of gases which is arranged before the plasma reactor.

As to the subject matter of claim 2, the valve reads on the recited baffle bodies.

As to the subject matter of claim 4, since Liou discloses the oxygen source 23 can be a pressurized source of relative pure oxygen (c. 4, l. 1-10) where the gas is inherently cold gases, the gas inlet reads on the recited cooling chamber. And this would apply to the recited subject matter of claims 5 and 6.

As to the subject matter of claim 13, Liou discloses it in Fig. 2.

As to the subject matter of claim 15, the gas inlet reads on the recited tube.

*Conclusion*

15. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kishor Mayekar whose telephone number is (571) 272-1339. The examiner can normally be reached on Monday-Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nam Nguyen can be reached on (571) 272-1342. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Kishor Mayekar/  
Primary Examiner, Art Unit 1795